

IN THE CLAIMS:

1. (Currently Amended) A method for measuring an animate body temperature at an external dermal surface thereof over an air interface, comprising:

interconnecting a sensor device to ~~an~~the external dermal surface of ~~an~~the animate body, said sensor having a thermally conductive contact surface for thermally contacting said external dermal surface;

emitting an interrogation signal from a hand held probe having a portable power source;

receiving a portion of said interrogation signal at said sensor device, wherein said interrogation signal is received via an air interface;

utilizing energy derived from said interrogation signal to measure a temperature of ~~an~~the animate body at ~~an~~the external dermal surface thereof in thermal contact with said thermally conductive contact surface of said sensor, and to generate a temperature signal indicative of said measured temperature for receipt by said hand-held probe via said air interface; and

providing a user output indicating said temperature at said hand held probe.

2. (Original) The method of Claim 1, wherein emitting said interrogation signal comprises emitting an energizing field from said hand held probe.

3. (Original) The method of Claim 2, wherein said energizing field comprises one of:

a magnetic field; and

an electromagnetic field.

4. (Original) The method of Claim 3, wherein emitting an electromagnetic field comprises emitting a radio frequency (RF) signal.

5. (Original) The method of Claim 1, wherein, said step of receiving further comprises:

converting said portion of said interrogation signal into a drive signal.

6. (Previously presented) The method of Claim 5, wherein said step of utilizing comprises applying said drive signal to a temperature measurement device to obtain said temperature.

7. (Original) The method as recited in Claim 1, further comprising: second receiving said signal indicative of said measured temperature at said hand held probe via

said air interface.

8. (Previously presented) A method as recited in Claim 7, wherein said hand held probe and said sensor are operative to complete said receiving, utilizing and second receiving steps only when located within a predetermined range of each other.

9. (Previously presented) A method as recited in Claim 8, wherein said predetermined range is less than 4 feet.

10. (Previously presented) A method as recited in Claim 9, wherein said predetermined range is less than 1.5 feet.

11. (Original) A method as recited in Claim 1, wherein said providing step comprises: supplying at least one of a visual user output and an auditory user output indicating said measured temperature.

12. (Original) A method as recited in Claim 1, wherein said utilizing step is automatically completed in response to said receiving step.

13. (Original) A method as recited in Claim 1, wherein said receiving and utilizing steps are completed substantially simultaneously with said emitting step.

14. (Previously presented) A method as recited in Claim 1, wherein said emitting step comprises:

selectively activating said hand held probe to emit said interrogation signal.

15. (Previously presented) A method as recited in Claim 1, further comprising: insulating non-contact surfaces of said sensor device.

16. (Previously presented) A method as recited in Claim 15, wherein said interconnecting step comprises:

adhering said contact surface of said sensor device to said dermal surface of said animate body.

17. (Previously presented) A method as recited in Claim 16, wherein said adhering said sensor further comprises removing a protective layer from an adhesive disposed on said contact surface on said sensor device; and,

contacting said dermal surface with said contact surface.

18. (Cancelled).

19. (Previously presented) A method as recited in Claim 19, further comprising: removing said sensor device from said dermal surface after use; and,

disposing said sensor device after removal.

20. (Currently Amended) A system for measuring an animate body temperature at an external dermal surface thereof over an air interface, comprising:

a portable hand-held probe for transmitting and receiving signals via an air interface, said probe including:

a first antenna;

a power source; and

a user output; and

a sensor, interconnectable to an external dermal surface of an animate body, for receiving a signal from said probe, measuring a temperature of said body at said external dermal surface, and transmitting a response signal indicative of said temperature to said probe via said air interface, said sensor including:

a second antenna for receiving and sending signals;

a conversion circuit for converting a received signal to a drive signal;

a temperature measurement device operative to utilize said drive signal to measure said temperature and generate an output indicative of said temperature;

an oscillator operative to vary a load applied to said second antenna according to said output in order to generate said response signal; and

a thermally conductive contact surface for providing thermal contact with ~~an~~ the external dermal surface of ~~an~~ the animate body.

21. (Original) The system as recited in Claim 20 wherein said hand held probe is operative to transmit an energizing field from said first antenna.

22. (Original) The system as recited in Claim 21, wherein said energizing field comprises one of:

a magnetic field; and

an electric field.

23. (Previously Presented) The system as recited in Claim 22, wherein said electric field comprises a radio frequency (RF) signal having a frequency between 100 KHz and 2.5 GHz.

24. (Original) The system as recited in Claim 20, wherein said user output provides at least one of a visual output and an auditory output indicating said temperature.

25. (Original) The system as recited in Claim 21, wherein said first antenna comprises:

a transmitting antenna and a receiving antenna, wherein said transmitting and receiving antennas are separate elements.

26. (Original) The system as recited in Claim 20, wherein said hand-held probe further comprises:

a switch for selectively activating transmission of signals from said first antenna.

27. (Original) The system as recited in Claim 20, wherein said hand-held probe further comprises:

a memory for storing at least one said temperature.

28. (Original) The system as recited in Claim 27, wherein said memory is further operative to store information associated with said response signal indicative of said temperature.

29. (Original) The system as recited in Claim 28, further comprising:

a microprocessor for comparing said response signal with said information to identify said temperature.

30. (Original) The system as recited in Claim 27, further comprising:

a user input for inputting information for storage with said temperature.

31. (Original) The system as recited in Claim 27, further comprising:

a data output port for downloading data from said hand-held probe to a data storage system.

32. (Previously Presented) The system as recited in Claim 20, wherein said conversion circuit comprises:

a rectifying circuit for converting said received signal into a DC drive signal.

33. (Original) The system as recited in Claim 32, further comprising:

a storage means for storing said DC drive signal.

34. (Original) The system of Claim 20, wherein said temperature measurement device comprises:

a thermistor operative to produce an output indicative of said temperature upon application of said drive signal.

35. (Cancelled).

36. (Original) The system of Claim 20, wherein said sensor further comprises:

a memory structure.

37. (Original) The system of Claim 36, wherein said memory structure includes factory set information.

38. (Original) The system of Claim 36, wherein said memory structure is read/write capable.

39. (Original) The system as recited in Claim 20, wherein said sensor further comprises: a housing for housing said second antenna, said conversion circuit and said temperature measurement device.

40. (Previously presented) The system as recited in Claim 39, wherein said housing further comprises:

a band sized for disposition around a patient extremity, said band being operative to hold said housing against a dermal surface of an animate body.

41. (Original) The system as recited in Claim 39, further comprising: an adhesive surface disposed on said housing for adhering said housing to a dermal surface of an animate body.

42. (Previously Presented) A system as recited in Claim 41, wherein said housing further comprises:

a protective, removable layer covering said adhesive surface.

43. (Currently Amended) A system as recited in Claim 39, wherein said housing includes an insulative layer on a surface that does not cover said thermally conductive surface and does not contact ~~a~~the dermal surface of ~~an~~the animate body.

44. (Currently Amended) A system for measuring an animate body temperature at an external dermal surface thereof over an air interface, comprising:

a portable hand-held probe for generating an interrogation signal and receiving response signals via an air interface;

a transponder temperature sensor, comprising:

a thermally conductive contact surface adapted to thermally contact an external dermal

surface of an animate body;

circuitry for receiving said interrogation signal from said probe, measuring a temperature at said thermally conductive contact surface in thermal contact with ~~an~~the external dermal surface of ~~an~~the animate body, and generating a temperature response signal indicative of said temperature; and

insulation covering at least a portion of non-contact surfaces of said transponder.

45. (Previously Presented) A system as recited in Claim 44, further comprising: an adhesive disposed on said contact surface.

46. (Previously Presented) A system as recited in Claim 45, wherein said passive transponder temperature sensor further comprises:

a release liner, removeably disposed over said adhesive.

47. (Previously Presented) A system as recited in Claim 44, wherein said circuitry is further operative to derive energy from said interrogation signal to measure said temperature and generate said temperature response signal.